Plant diseases.—WHETZEL and STEWART,[16] contrary to the common belief, advocate the cultivation of pear orchards if a crop of fruit is desired. In this view they are upheld by HEDRICK of the State Station, who found that blight epidemics are not necessarily dependent upon cultivation and manuring. No immunity to the disease was obtained by the use of certain blight remedies.

SACKETT[17] has described the appearance of this new bacterial disease in the field, and has given the manner of infection, together with a complete morphological, cultural, physical, and biochemical description of the causal organism, *Pseudomonas medicaginis* sp. n. The work is well supported by numerous inoculations. The only thing lacking in this well-balanced investigation is a bibliography.—VENUS W. POOL.

Source of nitrogen for molds.—RITTER[18] finds that the ammonium salts of mineral acids as the source of nitrogen for the molds is inverse to the strength of the acid forming the negative ion of the salt. The author attributes this to the toxic effect of the acid liberated by the assimilation of the ammonium ion. For instance, mono-ammonium or diammonium phosphate is a far better source of nitrogen than the ammonium salts of sulfuric, hydrochloric, or nitric acids. The so-called "Nitratpilze" (*Aspergillus glaucus*, *Mucor racemosus*, *Cladosporium herbarium*) gave on the average a greater yield of organic material from the two ammonium phosphates mentioned than from potassium nitrate. The yield from the ammonium salts of the stronger mineral acids was very much lower.—WILLIAM CROCKER.

Excretion of salts by Statice.—SCHTSCHERBACK[19] has investigated the excretion of salts by the leaves of *Statice Gmelini*. Many leaves of halophytes are known to excrete salts in considerable quantities by means of the glands described by DEBARY and others. Leaves of *Statice Gmelini*, floating on pure water, are soon freed from their contained salt and thereafter excrete water only. The amount of excretion of a leaf floating on a solution of a substance depends upon the substance and the concentration of it used; sulfates and chlorids of sodium, potassium, and magnesium tending to increase it, while calcium compounds and sugars decrease it. The amount of excretion does not depend upon the turgor pressure in the leaf cells.—R. CATLIN ROSE.

Physcia villosa in North America.—In a recent number of this journal (**49**: 320. 1910) I recorded this plant from southern California. Since then I have

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[16] WHETZEL, H. H., and STEWART, V. B., Fire blight of pears, apples, quinces, etc. Bull. N.Y. Cornell Exp. Sta. **272**:31–51. *figs. 5–231.* 1910.

[17] SACKETT, W. G., A bacterial disease of alfalfa. Bull. Colo. Exp. Sta. **158**:1–32. *pls. 1–3.* 1910.

[18] RITTER, G., Ammoniak und Nitrate als Stickstoffquelle für Schimmelpilze. Ber. Deutsch. Bot. Gesell. **27**:582–588. 1909.

[19] SCHTSCHERBACK, JOHANN, Ueber die Salzausscheidung durch die Blätter von *Statice Gmelini*. Beih. Deutsch. Bot. Gesell. **28**:30–34. 1910.

found in the herbarium of Wellesley College a specimen distributed with *Evernia furfacea* (L.) Mann, collected by EDWARD PALMER at San Diego, California, in December 1888. A duplicate of this collecting has been kindly sent me by Dr. L. W. RIDDLE, who also calls my attention to the fact that this plant was distributed in *Decades North American Lichens* (no. 154) from San Quintin Bay, Lower California, Mexico, where it was collected by C. R. ORCUTT (see HASSE, Bryologist **13**:61. 1910).—R. HEBER HOWE, JR., *Thoreau Museum, Concord, Mass.*

Fertilization in Rafflesia.—The remarkable and renowned *Rafflesia* has long attracted attention, but little has been known of its more minute details. An investigation[20] of its embryo sac and fertilization shows that in spite of the parasitic habit and grotesque appearance, the development of the embryo sac and the process of fertilization are quite normal. It was noted that young stages in the development of the ovule are found in nearly mature buds, and that the development of the sac takes place after the flower is open.—CHARLES J. CHAMBERLAIN.

Microchemistry of chromosomes.[21]—The title arouses interest, but from the paper we learn only that chromosomes may be dissolved in hot water, while the reticulum of the resting nucleus is little affected, and that therefore the importance of chromatin in heredity has been overestimated. That there are chemical changes as chromosomes are developed from a reticulum has been known for some time, but we now know the effect of hot water upon chromosomes and theories of heredity.—CHARLES J. CHAMBERLAIN.

Absorption of salts by Bromeliaceae.—From his work with the Bromeliaceae, ASO[22] concludes that *Ananas sativus*, *Pitcairnia imbricata*, and *Nidularia purpurea* do not take up, or only in very small amounts, by means of the scales of the leaves, salts soluble in water. On the other hand, *Tillandsia usneoides*, after five days of submergence in a 0.3 per cent lithium nitrate solution, showed in different parts of the plant considerable quantities of the salt.—R. CATLIN ROSE.

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[20] ERNST, A., und SCHMID, ED., Embryosack entwickelung bei *Rafflesia Patma* Bl. Ber. Deutsch. Bot. Gesell. **27**:176–186. *pl. 8*. 1909.

[21] NĚMEC, B., Zur Mikrochemie der Chromosomen. Ber. Deutsch. Bot. Gesell. **27**:43–47. 1909.

[22] ASO, K., Können Bromeliaceen durch die Schuppen der Blätter Salze aufnehmen? Flora **100**:447–449. 1910.